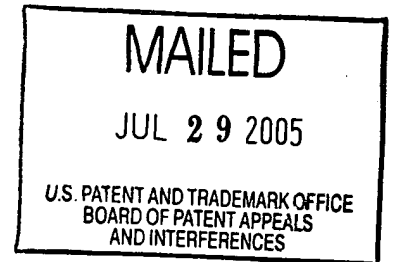


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KLAUS-PETER JONDERKO,
KLUS JANISCHEWSKI and LUTZ MINDACH



Appeal No. 2005-1247
Application No. 09/963,423

HEARD: July 14, 2005

Before WARREN, KRATZ and TIMM, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 2-11, 13-21, 25, 27 and 28. Claims 22-24, which are all of the other claims pending in this application, stand withdrawn from consideration by the examiner as being drawn to a non-elected invention.

BACKGROUND

Appellants' invention relates to a solid, pulverulent, adduct having particle diameters of from about 1 to 1000 microns. An understanding of the invention can be derived from a reading of exemplary claim 2, which is reproduced below.

2. A solid, pulverulent, water-dispersible, blocked polyisocyanate adduct having particle diameters of from about 1 to 1000 μm , obtained by reacting, in a water-free, organic auxiliary solvent,
at least one isocyanate component selected from the group consisting of aliphatic, cycloaliphatic and aromatic isocyanates, wherein said isocyanate has an average, NCO functionality of 2-4
with
at least one hydrophilicizing component containing at least one group which is reactive toward the NCO groups, in an amount such that there is on average not more than one NCO-reactive function for each isocyanate molecule;
blocking with at least one blocking agent from 95 to 100% to the NCO group not reacting with the hydrophilicizing component;
optionally neutralizing with at least one neutralizing agent; and
removing the organic auxiliary solvent.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Reiff et al. (Reiff '370)	5,508,370	Apr. 16, 1996
Reiff et al. (Reiff '482)	5,607,482	Mar. 04, 1997
Reiff et al. (Reiff '737)	5,693,737	Dec. 02, 1997

Lange et al. (Lange) 6,096,805 Aug. 01, 2000

Claims 2-11, 13-21, 25, 27 and 28 stand rejected under 35 U.S.C. § 112, first paragraph as being based on a non-enabling disclosure. Claims 2-11, 13-20, 25, 27 and 28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reiff '370, Reiff, 482 or Reiff '737. Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Reiff '370, Reiff, 482 or Reiff '737, each in view of Lange.

We refer to the brief and reply brief and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

OPINION

Having considered the entire record of this application, including the arguments advanced by both the examiner and appellants in support of their respective positions, we find ourselves in agreement with appellants' position in that the examiner has not met the burden to show, prima facie: (1) that the claimed subject matter is not enabled by the original disclosure of the application; (2) that the applied prior art anticipates the subject matter of claims 2-11, 13-20, 25, 27 and

28; and (3) that the applied prior art renders the subject matter of claim 21 obvious within the meaning of 35 U.S.C. § 103(a). Accordingly, we reverse the rejections advanced by the examiner. Our reasoning follows.

§ 112, first paragraph Rejection

According to the examiner, the specification is non-enabling since the disclosed weight percent content ranges for the isocyanate and hydrophilicizing component reactants do not support the breadth of the appealed claims that are not so limited to particular weight percent content ranges. (answer, pages 3 and 4). The examiner appears to be concerned that appellants' detailed disclosure of specified weight percentages of reactant components does not enable a person skilled in the art to which it pertains, or with which it is most nearly connected, to make an invention commensurate in scope with the rejected claims without undue experimentation (answer, pages 3 and 4).

In our view, the examiner has not carried the initial burden of setting forth evidence or sound technical reasoning which indicates that one of ordinary skill in the art would not have been enabled by appellants' specification to form a solid,

pulverulent, water-dispersible, blocked polyisocyanate adduct having particle diameters of from about 1 to 1000 microns or perform a process for making such an adduct, as herein claimed.

Whether making and using the invention would have required undue experimentation, and thus whether the disclosure is enabling, is a legal conclusion based upon several underlying factual inquiries. See In re Wands, 858 F.2d 731, 736-37, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Here, the examiner has not presented sufficient factual determinations to support the legal conclusion that undue experimentation is required to practice the invention as claimed.

Nor has the examiner established that the subject matter involved in this appeal is unpredictable, let alone to such an extent that appellants need to provide working examples across the breadth of the claimed subject matter, as seemingly suggested by the sentence bridging pages 3 and 4 of the answer. In this regard, we note that compliance with the enablement provision of 35 U.S.C. § 112, first paragraph does not require appellants to actually have reduced the claimed invention to practice, let alone demonstrate such a reduction to practice across the full breadth of the scope of the claims.

Accordingly, based on the present record, the rejection of claims 2-11, 13-21, 25, 27 and 28 under 35 U.S.C. § 112, first paragraph, for lack of enablement cannot be sustained.

§ 102 Rejection

To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997).

In the case before us the examiner maintains that each of the applied Reiff patents anticipate claims 2-11, 13-20, 25, 27 and 28. In making this determination, the examiner refers to the abstract and each of columns 2-12 of each of the applied references.

All of those rejected claims require either a product or process of producing a product that is "a solid, pulverulent, water-dispersible, blocked polyisocyanate adduct having particle diameters of from about 1 to 1000 μm ". (claims 2 and 25). Appellants argue that none of the applied Reiff patents describe a solid, water-dispersible, blocked polyisocyanate adduct product in a powder (pulverulent) form that has particle diameters within

a range, as here claimed. On the other hand, the examiner (answer, pages 5 and 6) takes the position that:

Firstly, the position is taken that the claimed lower endpoint of about 1 micrometer encompasses particle size below 1 micrometer (1,000 millimicrons). Secondly, the particles sizes of Reiff et al. are not confined to 50 to 500 millimicrons. It is noted that Reiff et al. ('482) recite a range endpoint of about 800 millimicrons (see column 10, line 51); this endpoint, in and of itself, is considered to be encompassed by appellants' claimed about 1 micrometer. Furthermore, the references do not require that the particles fall within the recited ranges; rather, the particle diameter is defined as the diameter at which 50% of the particles are above and 50% of the particles are below. In view of this definition, the position is taken that it is reasonable to conclude that approximately 50% of the particles of Reiff et al. (especially Reiff et al. ('482)) have a particle size that meets the claimed range endpoint of about 1 micrometer.

The difficulty we have with the examiner's position is that the examiner has not established that average diameters of the already dispersed particles referred to in the Reiff patent represents a description of "a solid, pulverulent, water-dispersible, blocked polyisocyanate adduct having particle diameters of from about 1 to 1000 μm " as required by the rejected claims. In particular, we note that while individual particles of the dispersion of the applied references can be considered to be a solid adduct as alleged by the examiner, the appealed claims require that the solid product includes multiple particles as

evident by the claim term "diameters." In other words, even though the dispersions of the applied references include multiple solid particles, those dispersions are not a solid comprising a collection of solids in pulverulent (powder or dust-like) form¹ that was formed in a water-free environment, as required by the appealed claims. Rather, the aqueous dispersions of the applied references are in the nature of an aqueous colloid-type or aqueous fluid-type stable suspension of solids.²

We agree with the examiner that the term "about" as used in the appealed claims allows for some variance or imprecision in the particle size range endpoints that are claimed thereby permitting some tolerance, and therefore encompassing values on

¹ See the definition of "pulverulent" at page 946 of Merriam Webster's Collegiate Dictionary, Tenth Edition (1996). A copy of that dictionary page accompanies this decision. Furthermore and perhaps more importantly, we note that appellants alternately refer to the solid adduct as pulverulent or a powder in the specification. See, e.g., page 2 lines 13 and 17 of appellants' specification. Thus, our construction of this claim term is consistent with appellants use of the term in the specification.

²At page 2, paragraph 1 of the examiner's final rejection, the examiner may have taken a position that appears to be inconsistent with at least part of the position taken in the answer holding that a dispersion anticipates the solid product of claim 2. In particular, the examiner asserts in that final rejection paragraph that claims drawn to a dispersion represent a separate and distinct invention from that of the solid product of claim 2 in holding claims 22-24 withdrawn from consideration.

either side of the claimed value (number). See Eiselstein v. Frank, 52 F.3d 1035, 1038-40, 34 USPQ2d 1467, 1470-71 (Fed. Cir. 1995).

However, the mere existence of such tolerance in the range endpoints does not relieve the examiner from the burden of explaining how each of the applied Reiff patents provides a description of a solid, pulverulent, water-dispersible, blocked polyisocyanate adduct having particle diameters that fall within the range of variance of particle sizes permitted by the claim language in the case before us.

The mere assertion that such is the case because of an alleged relative closeness of the upper endpoint (500 or 800 millimicrons) of a range of average sizes for already water-dispersed particles in the applied references versus appellants' claimed lower limit for particle sizes of about 1 μ m (1,000 millimicrons) for appellants' pulverulent (powder form), water-dispersible, blocked, polyisocyanate solid adduct does not serve to fairly discharge the examiner's burden to establish that one of ordinary skill in the art would recognize a description of a product or process as called for by appellants' claims, including

the claimed particle size limitation in the applied references.³

In this regard, we note that the examiner's speculation about the range of variance from the average diameter sizes that may be

³ See In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990) (concluding that a claimed invention was rendered obvious by a prior art reference whose disclosed range was "about 1-5%" carbon monoxide whereas the claimed range was more than 5% to about 25% carbon monoxide). The court in Woodruff did not affirm the obviousness rejection by holding that anticipation is the ultimate or epitome of obviousness. Cf., In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982).

"[A]nticipation under § 102 can be found only when the reference discloses exactly what is claimed and that where there are differences between the reference disclosure and the claim, the rejection must be based on § 103 which takes differences into account." Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 780, 227 USPQ 773, 777 (Fed. Cir. 1985).

In cases involving overlapping ranges, our current and previous reviewing courts have consistently held that even a slight overlap in range establishes a prima facie case of obviousness. See In re Geisler, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) (acknowledging that a claimed invention was rendered prima facie obvious by a prior art reference whose disclosed range (50 to 100 Angstroms) overlapped the claimed range (100 to 600 Angstroms) at one point); In re Woodruff, *supra*; and In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974) (concluding that a claimed invention was rendered prima facie obvious by a prior art reference whose disclosed range (0.020-0.035% carbon) overlapped the claimed range (0.030-0.070% carbon)). In a more recent case, our reviewing court held that a prima facie case of obviousness exists when the claimed ranges are completely encompassed by the prior art. See In re Petersen, 315 F.3d 1325, 1329-30, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003) ("Selecting a narrow range from within a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply overlaps a disclosed range. In fact, when, as here, the claimed ranges are completely encompassed by the prior art, the conclusion of obviousness is even more compelling than in cases of mere overlap").

present in the dispersions of the applied references, absent concrete evidence establishing the obtention of a solid product having particles of such sizes in the applied references, does not support a finding of anticipation. On this record, we reverse the examiner's § 102 rejection.

§ 103(a) Rejection

Concerning the examiner's § 103(a) rejection of dependent claim 21, the examiner does not offer any further analysis of the contested claimed particle size limitation explaining how Lange in combination with any of the Reiff patents would have rendered the claimed solid product including the particle size limitation obvious to one of ordinary skill in the art. It follows that we shall also reverse the examiner's obviousness rejection, on this record.

CONCLUSION

The decision of the examiner to reject claims 2-11, 13-21, 25, 27 and 28 under 35 U.S.C. § 112, first paragraph as being based on a non-enabling disclosure; to reject claims 2-11, 13-20, 25, 27 and 28 under 35 U.S.C. § 102(b) as being anticipated by Reiff '370, Reiff, 482 or Reiff '737; and to reject claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Reiff '370, Reiff, 482 or Reiff '737, each in view of Lange is reversed.

REVERSED

Paul J. Whelan

CHARLES F. WARREN
Administrative Patent Judge

Pete F. Korb

PETER F. KRATZ
Administrative Patent Judge

CATHERINE TIMM

CATHERINE TIMM
Administrative Patent Judge

BOARD OF PATENT
APPEALS
AND
INTERFERENCES

PFK/sld

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Library of Congress Cataloging in Publication Data
Main entry under title:

Merriam-Webster's collegiate dictionary. — 10th ed.

p. cm.

Includes index.

ISBN 0-87779-708-0 (unindexed : alk. paper). — ISBN 0-87779-709-9 (indexed :
alk. paper). — ISBN 0-87779-710-2 (deluxe : alk. paper). — ISBN 0-87779-707-2
(laminated cover).

1. English language—Dictionaries. I. Merriam-Webster, Inc.

PE1628.M36 . 1996

423—dc20

95-36076

CIP

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Pull-man \pŭl-mən\ *n* [George M. Pullman] (1867) 1: a railroad passenger car with specially comfortable furnishings for day or esp. for night travel 2: a large suitcase
pull off *vi* (1883): to carry out despite difficulties; accomplish successfully against odds

pull-to-rum disease \pə-ˈlɔr-əm-, -ˈlɔr-\ *n* [NL *pullorum* (specific epithet of *Salmonella pullorum*), fr. L. of chickens (gen. pl. of *pullus*)] (1929): a destructive typically diarrheal salmonellosis esp. of young domestic chickens that is caused by a bacterium (*Salmonella pullorum*)

pull-out \pŭl-əut\ *n* (1825) 1: the act or an instance of pulling out; as a: the action in which an airplane goes from a dive to horizontal flight b: PULLBACK 2: something that can be pulled out
pull out *vi* (1855) 1: LEAVE, DEPART 2: WITHDRAW

pull-over \pŭl-ə-vər\ *n* (1899): a pullover garment (as a sweater)
pull-over *adj* (1907): put on by being pulled over the head
pull over *vi* (1930): to steer one's vehicle to the side of the road ~ *vi*: to cause to pull over (pulled him over for speeding)

pull round *vi* (1891) chiefly Brit: to regain one's health ~ *vi*, chiefly Brit: to restore to good health

pull tab *n* (1963): a metal tab (as on a can) pulled to open the container

pull through *vi* (1852): to survive a dangerous or difficult situation ~ *vi*: to help survive a dangerous or difficult situation

pull-to-late \pŭl-yə-lāt\ *vi* -lat-ed; -lat-ing [L *pullulatus*, pp. of *pullulare*, fr. *pullulus*, dim. of *pullus* chicken, sprout — more at FOAL] (1619) 1: a: GERMINATE, SPROUT b: to breed or produce freely 2: SWARM, TEEM — **pull-to-late** \pŭl-yə-lāt-shən\ *n*

pull-up \pŭl-ʌp\ *n* (1938): CHIN-UP

pull up *vi* (1623) 1: to bring to a stop: HALT 2: CHECK, REBUKE ~ *vi* 1: a: to check oneself b: to come to an often abrupt halt: STOP 2: to draw even with others in a race

pull-mon-ary \pŭl-mə-ner-ē, -nē\ *adj* [L *pulmonarius*, fr. *pulmo*, *pulmo* lung; akin to Gk *pleumōn* lung, Skt *kloman* right lung] (1704) 1: relating to, functioning like, or associated with the lungs 2: PULMONATE 3: carried on by the lungs

pulmonary artery *n* (1704): an artery that conveys venous blood from the heart to the lungs — see HEART illustration
pulmonary circulation *n* (ca. 1890): the passage of blood from the right side of the heart through arteries to the lungs where it picks up oxygen and is returned to the left side of the heart by veins

pulmonary vein *n* (1704): a valveless vein that returns oxygenated blood from the lungs to the heart

pul-mo-nate \pŭl-mə-nāt, -nē\ *adj* [L *pulmon-*, *pulmo* lung] (ca. 1859) 1: having lungs or organs resembling lungs 2: of or relating to a subclass (Pulmonata) of gastropod mollusks having a respiratory sac and comprising most land snails and slugs and many freshwater snails

pulmonate *n* (1883): a pulmonate gastropod

pul-mon-ic \pŭl-mə-nik, -nē\ *adj* [L *pulmon-*, *pulmo*] (1661): PULMONARY

pul-mo-tor \pŭl-mō-tər, -tər\ *n* [fr. *Pulmotor*, a trademark] (1911): a respiratory apparatus for pumping oxygen or air into and out of the lungs (as of an asphyxiated person)

pulp \pŭlp\ *n* [ME *pulpe*, fr. MF *poulpe*, fr. L *pulpa* flesh, pulp] (14c) 1: a (1): the soft, succulent part of a fruit usu. composed of mesocarp (2): stem pith when soft and spongy b: a soft mass of vegetable matter (as of apples) from which most of the water has been extracted by pressure c: the soft sensitive tissue that fills the central cavity of a tooth — see TOOTH illustration d: a material prepared by chemical or mechanical means from various materials (as wood or rags) for use in making paper and cellulose products 2: pulverized ore mixed with water 3: a: pulpy condition or character b: something in such a condition or having such a character 4: a magazine or book printed on cheap paper (as newsprint) and often dealing with sensational material — **pulp-i-ness** \pŭl-pē-nəs\ *n* — **pulpy** \pŭl-pē\ *adj*

pulp *vi* (1683) 1: to reduce to pulp: cause to appear pulpy 2: to deprive of the pulp 3: to produce or reproduce (written matter) in pulp form ~ *vi*: to become pulp or pulpy — **pulp-er** *n*

pulp-al \pŭl-pəl\ *adj* (1903): of or relating to pulp esp. of a tooth (a ~ abscess) — **pulp-al-ly** \pŭl-pəl-ē\ *adv*

pulp-it \pŭl-pit\ *also* \pŭl-, -pit\ *n* [ME, fr. LL *pulpitum*, fr. L, staging, platform] (14c) 1: an elevated platform or high reading desk used in preaching or conducting a worship service 2: a: the preaching profession b: a preaching position

pulp-wood \pŭlp-wūd\ *n* (1885): a wood (as of aspen, hemlock, pine, or spruce) used in making pulp for paper

pul-que \pŭl-kā; -kē, -kē\ *n* [MexSp] (1693): a Mexican alcoholic beverage made from the fermented sap of various agaves (as *Agave atrovirens*)

pul-sant \pŭl-sənt\ *adj* (1709): pulsating with activity

pul-sar \pŭl-sär\ *n* [pulse + -ar (as in *quasar*)] (1968): a celestial source of pulsating electromagnetic radiation (as radio waves) characterized by a short relatively constant interval (as .033 second) between pulses that is held to be a rotating neutron star

pul-sate \pŭl-sāt\ *also* \pŭl-, -sat\ *vi* **pul-sat-ed; pul-sat-ing** [L *pulsatus*, pp. of *pulsare*, freq. of *pellere*] (1794) 1: to exhibit a pulse or pulsation: BEAT 2: to throb or move rhythmically: VIBRATE

pul-sa-til \pŭl-sə-tīl, -tīl\ *adj* (1541): of or marked by pulsation

pul-sa-tion \pŭl-sā-shən\ *n* (1541) 1: rhythmical throbbing or vibrating (as of an artery); *also*: a single beat or throb 2: a periodically recurring alternate increase and decrease of a quantity (as pressure, volume, or voltage)

pul-sa-tor \pŭl-sā-tər, -tər\ *n* (1890): something that beats or throbs in working

pulse \pŭls\ *n* [ME *puls*, fr. OF *pouls* porridge, fr. L *puls*, prob. fr. Gk *pollos*] (13c): the edible seeds of various leguminous crops (as peas, beans, or lentils); *also*: a plant yielding pulse

pulse *n* [ME *puls*, fr. MF *pouls*, fr. L *pulsus* lit., beating, fr. *pellere* to drive, push, beat — more at FELT] (14c) 1: a: a regular throbbing caused in the arteries by the contractions of the heart b: the palpable beat resulting from such pulse as detected in a superficial artery; *also*: the number of individual beats in a specified time period (as one minute) (a resting ~ of 70) 2: a: underlying sentiment or opinion or an

indication of it b: VITALITY 3: a: rhythmical beating, vibrating, or sounding b: BEAT, THROB 4: a: a transient variation of a quantity (as electrical current or voltage) whose value is normally constant (1): an electromagnetic wave or modulation thereof of brief duration (2): a brief disturbance of pressure in a medium; esp.: a sound wave or short train of sound waves 5: a dose of a substance esp. when applied over a short period of time (pulse-labeled DNA)

pulse *vb* **pulsed; puls-ing** *vi* (15c): to exhibit a pulse or pulsation: THROB ~ *vi* 1: to drive by or as if by a pulsation 2: to cause to pulsate 3: a: to produce or modulate (as electromagnetic waves) in the form of pulses (pulsed waves) b: to cause (an apparatus) to produce pulses — **puls-er** *n*

pulse-jet engine \pŭls-ˈjet-\ *n* (1949): a jet engine designed to produce a pulsating thrust by the intermittent flow of hot gases

pul-ver-a-ble \pŭl-və-rə-bəl, -bəl\ *adj* (ca. 1617): capable of being pulverized

pul-ver-ize \pŭl-və-rīz\ *vb* -ized; -iz-ing [ME, fr. MF *pulverizer*, fr. L *pulveriz*, fr. L *pulver*, *pulvis* dust, powder — more at POWDER] *n* (15c) 1: to reduce (as by crushing, beating, or grinding) to very small particles 2: ANNihilate, DEMOLISH ~ *vi*: to become pulverized — **pul-ver-iz-able** \pŭl-və-rī-zə-bəl\ *adj* — **pul-ver-iz-a-tion** \pŭl-və-rī-zā-shən, -vā-shən\ *n* — **pul-ver-iz-er** \pŭl-və-rī-zər\ *n*

pul-ver-u-lent \pŭl-vər-yə-lənt, -vər-yə\ *adj* [L *pulverulentus* dusty, fr. *pulver*, *pulvis*] (ca. 1656) 1: consisting of or reducible to fine powder 2: being or looking dusty: CRUMBLY

pul-vil-lus \pŭl-vī-ləs\ *n*, pl -vī-lī \-vī-jī, -jē\ [NL, fr. L dim. of *pulvinus*] (ca. 1826): one of the lobed hairy adhesive organs that terminate the feet of dipteran flies

pul-vi-nus \pŭl-vī-nəs, -vē-\ *n*, pl -vī-nī \-vī-nī, -nē\ [NL, fr. L cushion] (1857): a mass of large thin-walled cells surrounding a vascular strand at the base of a petiole or petiole and functioning in turgor movements of leaves or leaflets

pu-ma \pŭi-mə, -pyū-\ *n*, pl **pumas** *also* **puma** [Sp, fr. Quechua] (1777): COUGAR; *also*: the fur or pelt of a cougar

pum-ice \pŭ-mās\ *n* [ME *pomis*, fr. MF, fr. L *pumice*, *pumex* — more at FOAM] (15c): a volcanic glass full of cavities and very light in weight used esp. in powder form for smoothing and polishing — **pu-mi-ceous** \pŭi-mī-shəs, -pə-\ *adj*

pum-ic-ite \pŭ-mā-sīt\ *n* (1916): PUMICE

pum-mel \pŭ-məl\ *vb* -meled *also* -melled; -mel-ing *also* -meling [pŭ-mə-līg, -pŭm-līg\ *alter*. of *pommel*] (1548): POUND, BEAT

pum-me-lo *var* of POMELO 2

pump \pŭmp\ *n* [ME *pumpe*, *pompe*, fr. MLG *pumpe* or MD *pompe*, perh. fr. Sp *bomba*, of imit. origin] (15c) 1: a device that raises, transfers, or compresses fluids or that attenuates gases esp. by suction or pressure or both 2: HEART 3: an act or the process of pumping 4: an energy source (as light) for pumping atoms or molecules 5: a mechanism (as the sodium pump) for pumping atoms, ions, or molecules

pump *vi* (1508) 1: to work a pump: raise or move a fluid with a pump 2: to exert oneself to pump or as if to pump something 3: to move in a manner that resembles the action of a pump handle ~ *vi* 1: a: to raise (as water) with a pump b: to draw fluid from a pump 2: to pour forth, deliver, or draw with or as if with a pump (~ed money into the economy) (~ new life into the classroom) 3: a: to question persistently b: to elicit by persistent questioning 4: a: to operate by manipulating a lever b: to manipulate as if operating a pump handle (~ed my hand warmly) c: to cause to move with an action resembling that of a pump handle (a runner ~ing her arms) 5: to transport (as ions) against a concentration gradient by the expenditure of energy 6: a: to excite (as atoms or molecules) esp. so as to cause emission of coherent monochromatic electromagnetic radiation (as in a laser) b: to energize (as a laser) by pumping — **pump** *iron*: to lift weights

pump *n* [origin unknown] (1555): a shoe that grips the foot chiefly at the toe and heel; esp.: a close-fitting woman's dress shoe with a moderate to high heel

pumped storage *n* (1927): a hydroelectric system in which electricity is generated during periods of high demand by the use of water that has been pumped into a reservoir at a higher altitude during periods of low demand

pump-er \pŭm-pər\ *n* (1660): one that pumps; esp.: a fire truck equipped with a pump

pum-per-nick-el \pŭm-pər-nī-kəl\ *n* [G, fr. *pumpern* to break wind + *Nickel* goblin; fr. its reputed indigestibility] (1756): a dark coarse sordough bread made of unbolted rye flour

pump-kin \pŭm(p)-kən, -pən\ *n*, *often attrib* [alter. of earlier *pumpion*, modif. of F *popon*, *pompon* melon, pumpkin, fr. L *pepon*, *pepo*, fr. Gk *pepōn*, fr. *pepōn* ripened; akin to Gk *pepsin* to cook, ripen — more at COOK] (1654) 1: a: the usu. round orange fruit of a vine (*Cucurbita pepo*) of the gourd family widely cultivated as food b: WINTER CROCKNECK c: Brit: any of various large-fruited winter squashes (*C. maxima*) 2: a usu. hairy prickly vine that produces pumpkins

pump-kin-seed \-sēd\ *n* (1814): a brilliantly colored No. American freshwater sunfish (*Lepomis gibbosus*) with a reddish spot on the operculum

pump priming *n* (1936): government investment expenditures designed to induce a self-sustaining expansion of economic activity

pump up *vi* (1791) 1: a: to fill with enthusiasm or excitement b: to fill with or as if with air: INFLATE 2: INCREASE

pun \pŭn\ *n* [perh. fr. It *puntiglio* fine point, quibble — more at PUNCTILIO] (1662): the usu. humorous use of a word in such a way as to suggest two or more of its meanings or the meaning of another word similar in sound

pun *vi* **punned; pun-ning** (1670): to make puns

pu-na \pŭ-nə\ *n* [AmerSp, fr. Quechua] (1613): a treeless windswept tableland or basin in the higher Andes

punch \pŭnch\ *vb* [ME, fr. MF *poinçonner* to prick, stamp, fr. *poinçon* punchon] *vi* (14c) 1: a: PROD, POKE b: DRIVE, HERD (~ing cattle) 2: a: to strike with a forward thrust esp. of the fist b: to drive or push forcibly by or as if by a punch c: to hit (a ball) with less than a full swing 3: to emboss, cut, perforate, or make with or as if with a

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